

The invention has for its objects to provide a multilayer thin film including a ferroelectric thin film having much more improved properties on an Si substrate and its fabrication process as well as an electron device comprising the same. This object is achieved by the provision of a multilayer thin film formed on an Si substrate by epitaxial growth, which comprises a buffer layer formed on the Si substrate, which layer includes an oxide thin film, a perovskite oxide thin film formed on the buffer layer, which film has a (100) or (001) orientation, and a ferroelectric thin film epitaxially grown on the perovskite oxide thin film and its fabrication process as well as an electron device comprising the same.

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